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December 27, 2005

U.S. Department of Energy  
Office of Fossil Energy (FE-30)  
ATTN: Trudy Transtrum  
1000 Independence Avenue, SW  
Washington, DC 20585

**Re: National Petrochemical & Refiners Association (NPRA) Comments on Natural Gas Supply and Demand**

Dear Ms. Transtrum:

In response to the November 29, 2005 announcement by the Department of Energy seeking comments on natural gas supply and demand, NPRA submits the enclosed comments. NPRA greatly appreciated the Department's invitation to participate in the December 19-20 forum, and found the event to be well-planned and informative. While these comments echo many of the statements made at the forum, there are many additional policy recommendations that NPRA believes deserve serious consideration.

Please contact either Charlie Drevna or David Friedman with any questions regarding the enclosed comments.

Sincerely yours,

A handwritten signature in cursive script that reads "Bob Slaughter". The signature is written in black ink and includes a long horizontal flourish extending to the right.

Bob Slaughter  
President



# **Comments of the National Petrochemical & Refiners Association to the United States Department of Energy Regarding Natural Gas Supply and Demand Issues**

NPRA, the National Petrochemical & Refiners Association, appreciates the interest of the Department of Energy in the vital issue of ensuring adequate supplies of natural gas to all consumers. NPRA believes that diverse, ample and affordable supplies of fossil fuels are essential to maintain U.S. national security, economic growth, and the viability of the domestic refining and petrochemical industries.

America's standard of living and overall economic health are closely linked to the need for adequate supplies of energy at reasonable prices. Our nation currently faces severe challenges as it strives to balance ever-increasing energy demands from all consuming sectors, largely due to contradictory and short-sighted policies that have limited supply of most forms of energy while promoting additional natural gas consumption. These conflicting policies, either in the short or long term, are simply incompatible with continued U.S. economic growth.

NPRA also believes that there is an urgent need to harmonize the nation's energy and environmental policies, and that any national energy plan must include traditional supply and market-oriented policies for all fossil fuels, including natural gas. Energy is a strategic commodity. Without it, either through insufficient supply, unreasonable cost (or both), any modern economy is at risk. The threat of shortages can cause significant price escalations and disruptions in the marketplace. In recent years, domestic demand for natural gas has substantially increased, while production has recently decreased. Our experience with volatile natural gas prices and short supplies over the last several winters was a reality check for the nation's flawed policies, and we must act now to correct that situation. Government, industry, and private experts agree that natural gas demand is expected to rise by the year 2020 by as much as 60% over today's levels. But it is still unclear whether domestic gas production can increase to satisfy this new demand.

In the short-term, we must encourage conservation and efficiency, but increase supply wherever possible. Unfortunately, much must be accomplished on the supply side of this equation in what is a short, but nevertheless critical, time period. In essence, our nation's natural gas supply for the immediate future depends upon good weather and good luck this winter and next summer. We must try to improve things, but our options are limited in the short term. In order to meaningfully address this shortfall in supply, we must strongly encourage Congress and the Administration to act to support greater supply for natural gas markets in the mid- and long-term. This will require the political will to change current policy to put greater emphasis on supply-based initiatives and supply diversity.

## **Liquefied Natural Gas (LNG)**

Considering the large forecasted domestic supply/demand imbalance for natural gas, every possible source for additional supplies should be investigated and, if viable, incorporated into the overall resource base. LNG clearly falls into this category. The NPC reports that 14-17% of the nation's future demand could potentially be met by LNG. While this estimate could be somewhat optimistic, LNG can play a significant factor as one component of our total energy mix if the requisite infrastructure improvements and development can be accomplished in a timely fashion.

As with offshore leasing moratoria, LNG delivery, storage, and processing should be debated with facts—scientific and economic—not emotion and fear as their foundation. Genuine concerns, not specious claims, need to be addressed; validation through a rigorous, fair process should determine the appropriate path. Public education is key, as the general public has little or no actual understanding of LNG.

Since LNG will be a valuable resource in our nation's energy portfolio, the need for LNG import terminal construction will require a streamlined permitting process to support projected LNG supplies. Various agencies (state, federal and local) must coordinate activities and responsibilities in a concerted, concurrent fashion. Consideration should be given to increasing federal funding to these entities for the increased workload to process permit applications and to accommodate the anticipated increase in LNG related activities.

## **Natural Gas Infrastructure**

Most, if not all, stakeholders agree that the nation's aging natural gas infrastructure and network requires increased maintenance and upgrades to meet increasing consumer demands. Perhaps the greatest impediment to long-term investment in natural gas pipelines, storage facilities, and distribution lines is the lack of long-term regulatory certainty surrounding such capital expenditure decisions. Investors need to know well in advance of committing significant capital that regulators will provide certainty throughout the investment period. This requires a consistent cost recovery and contracting environment where the cost/benefit analysis and risk/reward opportunities are clearly understood and not subject to changes due to regulatory whim. In order to provide such an investment and regulatory framework, the following policy actions should be implemented:

- Permits for major infrastructure projects should be reviewed and determined within one year of submission. All regulatory bodies (federal, state, and local) should employ a joint review process to avoid unwarranted duplication and delay.
- Barriers, either artificial or actual, to long-term and firm contracts for natural gas delivery to consumers should be investigated and, where appropriate, removed. For example, many LDCs hesitate to enter into long-term contracts out

of concern that regulators may, sometime in the future, deem these contracts to be imprudent. Electric power producers are also reluctant to contract for firm service from pipelines if these services can not be justified in ultimate sales of power. This situation is especially prevalent in cases where peaking power is involved.

## **Environmental Challenges and Regulatory Barriers**

Natural gas resources, both on and offshore, can be produced with ample environmental protections. New technologies provide such safeguards. This basic fact is integral to the policy debate mentioned previously in this submission. Focusing, however, on the demand side of the energy equation leads to an indisputable fact. For far too long, the energy impacts of environmental legislation and/or regulations have had little or no consideration as these policies have been developed. In the case of natural gas, this has resulted in programs which encourage increased use—mostly in the generation of both base and peak- load electricity—because of its environmental benefits. This has created (and will most likely continue to exacerbate) higher gas prices and volatility. In fact, EIA reports that demand by electricity generators is expected to account for 30% of total natural gas consumption in 2025. This equates to a doubling of gas use by the utility sector over current demand. If present policies continue, it is clear that adequate supplies will not be available to accommodate this demand figure unless current natural gas users in core industries are forced to switch fuels, close, or relocate operations to a more favorable supply situation outside of the U.S. In the process, we will lose billions of dollars in economic benefit to the U.S. economy along with many thousands of well-paying jobs.

The domestic petrochemical industry, as well as others in the basic chemical sector, is primarily based upon natural gas and natural gas liquids. About 70% of U.S. petrochemical manufacturers use natural gas liquids as feedstocks. In contrast, about 70% of petrochemical producers in Western Europe and Asia use naphtha (from crude oil) as a feedstock. While oil is a global commodity whose price is set on the global market, natural gas liquids are generally more locally traded commodities. Thus, price increases in natural gas have had a larger impact on competitiveness in North American-produced petrochemicals.

The U.S. has generally maintained a reasonable-cost feedstock position relative to its competitors in Europe and Asia. However, that situation has recently been eroded as the price of natural gas has increased due to supply concerns. North American natural gas and natural gas liquids prices have risen and placed a significant portion of the domestic petrochemical industry at a disadvantage to European and Asian producers. The trend towards increased siting of base petrochemical production and expansion projects in overseas locations is directly attributable to not only the growing concern about fuel supplies but also the uncompetitive cost position of the U.S. vs. the rest of the world. Industrial users learned in the 1970s that insufficient natural gas supplies

quickly resulted in limited feedstock supplies available to them. The concern over a shortage of supply leading to non-competitive prices is quite evident by chemical companies' investments. The largest volume chemical in the world is ethylene and can be used as an indicator of the state of the industry. There are 34 major ethylene capacity expansions in the world today. Eighteen of these are in the Middle East, twelve are in Asia Pacific, one in Europe and three in the Americas. Of these, none are in the U.S. nor has any expansion been announced for the U.S. This lack of new capacity is in spite of the fact that 15 ethylene plants, representing 17% of U.S. capacity are over 35 years old. Ethylene plants become obsolete after about 40 years of service. They will be shut down and normally replaced with new, modern plants. But the uncertain U.S. natural gas supply coupled with noncompetitive prices in shortage situations is driving the new plants away from the U.S. Additional displacements will occur if the current and prospective gas price and supply situation is not addressed promptly.

The chemical industry has provided a large favorable balance of trade for years before natural gas supplies became tight and prices skyrocketed to the highest in the world. Even in 2004, the chemical industry was the largest U.S. exporter but due to the shortage of supplies leading to non-competitive natural gas pricing, the trade balance is no longer positive. This negative trade balance allows foreign businesses to capture U.S. market share, in part because European and Asian producers are not experiencing similarly increased feedstock prices and supply concerns.

Based on the above, we recommend the following policy options be adopted:

- Provide appropriate incentives for facilities with dual fuel capability to switch from gas to more abundant fuels, especially when supply concerns exist.
- Federal, state and local government should encourage electric utilities and industrial facilities to use fuels other than natural gas during the current shortage without negative impacts on air quality.
- Provide sufficient funds for the increased use of clean coal technology, more nuclear and hydro-power generation, and other forms of energy used to generate electricity.
- Electricity generating units which use natural gas as a primary fuel should be dispatched based on fuel efficiency. Fixed cost components of existing units should be secondary relative to fuel efficiency. Emergency plans, including temporary air quality exemptions or waivers, should be developed by FERC, DOE and EPA when supplies of preferred fuels become inadequate.
- Review environmental regulations or enforcement actions which require the use of natural gas to achieve air quality standards. A primary example is EPA's ill-considered requirement that refiners and other manufacturers use natural gas without paying attention to supply impacts.
- Codify Executive Order # 13211 which requires a statement of energy impacts when undertaking certain federal/regulatory actions. These include potential impacts on energy supply, distribution, or use.

- Review public policy initiatives such as fuel mandates and global climate change initiatives that have the potential to impact natural gas supplies. (Ethanol plants in particular are significant users of natural gas.)
- Any “Clear Skies” legislation should: 1) not encourage fuel switching; 2) not apply to combined heat and power; 3) be limited to only three pollutants; and 4) not regulate CO<sub>2</sub> emissions in any way.
- Support legislation that provides for a transition to a competitive market instead of outright repeal of the mandatory purchase provisions of the Public Utility Regulatory Policies Act (PURPA).
- Performance-based regulations should meet required emissions limitations without regard to equipment used or type of fuel. EPA’s New Source Review (NSR) program should not unnecessarily tilt the fuel of choice to natural gas without considering the total impacts of such a requirement, especially on gas supplies.
- Finally, the public must be informed. Policymakers in Washington have made critical energy decisions without the benefit of supply-oriented public input. The result has been flawed energy policy. It is time to end the recurring cycle of enacting energy policies which do little or nothing to increase supply. We can start by re-establishing the supply ethic in America’s energy policy now in order to fuel continued U.S. economic growth and world leadership throughout this new century.

## **Diversification and Conservation**

Conservation and efficiency programs are integral components of any energy policy/strategy. These programs should be based upon limited, market-based incentives, and focused on enhanced R&D; they should not include mandates which only serve to distort marketplace dynamics and which are inherently inefficient. Unfortunately, however, conservation and energy programs alone will not solve the overriding problem that confronts the nation—the significant and increasing imbalance between domestic supply and demand.

The ever-increasing number and stringency of environmental (air quality) regulations has significantly raised the demand for natural gas across all sectors. Nowhere has this phenomenon had more impact than in electricity generation. A significant portion of this increased demand, and therefore upward price pressures on natural gas, is attributed to:

- the acceleration of target dates for compliance with Clean Air Act requirements;
- the increased levels of emissions reductions contained in some proposed

initiatives; and,

□ EPA's encouragement of natural gas use (at the expense of higher value uses) as a means of Clean Air Act compliance when other alternatives are available.

Clearly, these actions have already had and will continue to have a serious impact on existing coal-fired electric generation. Further, they will inhibit plans for new coal-fired, baseload electric generation. This will undoubtedly require even more natural gas fired generation. Any unreasonable increase in gas-fired generation and corresponding rise in natural gas demand from the utility sector could further exacerbate the challenges facing the U.S. gas production and supply sector, and seriously damage the competitiveness of other U.S. industries that rely on natural gas supply.

NPRA believes that the nation should act to limit unnecessary and unreasonable use of natural gas in electric generation where other alternatives are clearly available. Proposed legislative or regulatory actions such as the Clear Skies initiatives should incorporate this vital concept. Continuing reliance on clean coal and nuclear power to generate most of the nation's electricity will have a corresponding positive impact on natural gas availability for industrial and residential gas usage. In order to be ultimately successful, these initiatives must be flexible in timing and scope. Public policy should encourage the use of diverse, abundant and affordable energy sources where viable, including clean coal, nuclear, and renewables for electric generation.

Sound energy and economic policy requires an evenhanded approach in any clean air regulatory or legislative package. NPRA believes that if implemented with these principles in mind, our policies will at a minimum avoid further aggravation of an already precarious natural gas supply/demand balance.

## **Tax Incentives**

### **Increasing Supply**

Certain measures incorporated in the recently enacted FSC/ETI legislation are good first steps that will assist the development of natural gas supplies from Alaska. In addition, the domestic "gross receipts" provisions allowing up to 9% of income from domestic gas (and oil) production will provide additional capital for investment. However, the nation's natural gas pipeline delivery system must expand dramatically over the next several decades in order to accommodate the projected growth in consumer demand.

There is little or no difference between the nation's need to increase road and bridge construction to meet ever-expanding traffic demands and the need to update and expand natural gas pipeline and storage facilities to meet anticipated public energy demand (projected to increase 50-60% over today's usage). According to the American Gas Association, the natural gas industry would need to invest approximately \$150 billion over the next 20 years in order to expand the system by just 30%.

Given these circumstances, Congress should consider the following:

- Amend tax law to allow natural gas (and other energy producers like refiners) to accelerate the rate at which they depreciate cost of pipelines, process equipment, facility upgrades, etc, which, when installed, provide additional throughput capacity and product. This concept should be applied to both regular and minimum tax. In a similar fashion, installation of equipment due to environmental legislation and/or regulation should also be subject to this accelerated depreciation.
  - Allow a seven- year time frame for the depreciation of these assets.
  - Extend and expand Section 29 production tax credits.

## **Demand**

The vast majority of increased natural gas demand for the next several decades is due to the requirements of the electric utility industry. Restricting demand for applications such as petrochemical facilities, refining, and other manufacturing sectors should not be considered a viable option since such limitations would clearly affect production of transportation fuels and reduce U.S. manufacturing jobs in the petrochemical industry. To the extent possible, demand limitations should focus perspective increased use in the electric generating market, not on areas where significant adverse economic consequences will result in the detriment of economic growth. This can be accomplished by adopting many of the recommendations of the National Petroleum Council's 2003 report on Natural Gas Policy, which include:

- Rate recovery of switching costs;
- Alternate fuel consideration in integrated resource planning;
- Expedition of hydroelectric and nuclear re- licensing; and,
- Certainty and flexibility in environmental initiatives.

## **FERC and EIA Natural Gas Market Data**

Gas or other commodity markets work best and most efficiently when economic forces dictate supply, demand and price with little or no government interference. Unfortunately and as previously discussed, government policy has restrained natural gas supply and increased demand, resulting in a marketplace imbalance. Adoption of the above referenced recommendations will certainly provide for greater resource supply and promote greater supply predictability.

The government can take certain steps to encourage more open and predictable natural gas markets. FERC's ongoing efforts to promote market transparency and voluntary price reporting are laudable, however more can perhaps be done to accomplish these needed reforms. A more transparent market with timely reporting of transactions would ensure certainty and instill greater confidence in the system.

Further, DOE (EIA) has played and should continue to play a prominent role in gathering and distribution of vital production and storage information. The Agency should, however, work with other state and federal entities to provide more timely information and attempt to reduce the current gaps in reporting monthly production, storage, and demand figures. EIA, in addition, could provide a useful service by conducting annual surveys, both in the electric generation sector and in the general industry sector, that report fuel switching capability and actual fuel switching episodes, their cause, and their duration.